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| 10/032,471 | 01/02/2002 | Steven Martin Hudson | 06997-0026 | 5631 |

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| EXAMINER |
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DOLE, TIMOTHY J

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| ART UNIT | PAPER NUMBER |
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2858

DATE MAILED: 06/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/032,471

Applicant(s)

HUDSON, STEVEN MARTIN

Examiner

Timothy J. Dole

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 13, 14 and 16-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-12, 15 and 25 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: ____

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Claims 1-12, 15 and 25 in Paper No. 5 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 13, 14 and 16-24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim.

Drawings

3. The drawings are objected to because the empty boxes in figures 1-3 should contain labels or symbols representing their purpose or function. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Anode Monitoring.

5. Claims 5, 9 and 15 are objected to because of the following informalities: "to" and "in" should be added to the first line of claim 5, which should read "An anode monitoring system

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according to claim 1 in which..." and "means" should be "element" in claim 9, lines 3 and 5, and in claim 15, line 8. Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, 6-9, 11, 12, 15 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Lincklaen-Arriens et al.

Referring to claims 1, 12 and 25, Lincklaen-Arriens et al. discloses an anode monitoring system for monitoring the integrity of anodes (fig. 1 (3)) provided on a metallic structure (fig. 1 (1)) for cathodic protection purposes, the system comprising a signal circuit (fig. 1) having at least one signal path comprising the metallic structure and a selected anode whereby the characteristics of the signal circuit depend on the effectiveness of the selected anode, a signal generator (fig. 1 (4)) for generating and applying a signal to the signal circuit, and a central station (fig. 1 (10)) for monitoring signals on the signal circuit to thereby determine whether the selected anode is effective (column 2, lines 49-52).

Referring to claim 2, Lincklaen-Arriens et al. discloses the system as claimed in which the signal generator is arranged, when the selective anode is effective, to apply a

signal to the signal circuit which is indicative of the effectiveness of the selected anode (column 5, lines 10-19).

Referring to claim 3, Lincklaen-Arriens et al. discloses the system as claimed in which the signal generator is disposed at the selected anode (fig. 1).

Referring to claim 6, Lincklaen-Arriens et al. discloses the system as claimed in which the signal circuit comprises an impedance element (fig. 3 (27)) provided in series between the selected anode and the metallic structure.

Referring to claim 7, Lincklaen-Arriens et al. discloses the system as claimed in which the impedance element is arranged to give a high impedance to time varying signals within at least one selected range of frequencies and a low impedance to signals outside the selected range (column 4, lines 11-52).

Referring to claim 8, Lincklaen-Arriens et al. discloses the system as claimed in which the impedance element is arranged so that the real part of the impedance is substantially zero (fig. 3 (27)).

Referring to claim 9, Lincklaen-Arriens et al. discloses the system as claimed, further comprising at least one of a transmitter (fig. 3 (28)) and a receiver connected across the impedance means and arranged to respectively transmit and receive signals across the impedance means (fig. 3).

Referring to claim 11, Lincklaen-Arriens et al. discloses the system as claimed, which comprises a plurality of signal paths (fig. 1) each comprising the metallic structure and a respective anode (fig. 1 (3)) which is arranged so that signals associated with each anode are generated at different randomly determined times (column 4, lines 30-52).

Referring to claim 15, Lincklaen-Arriens et al. discloses an anode arrangement for use in an anode monitoring system (fig. 1), the arrangement comprising a sacrificial anode (fig. 1 (3)) arranged for mounting on a metallic structure (fig. 1 (1)), an impedance element (fig. 3 (27)) having one terminal connected to the anode and another terminal arranged for connection to said metallic structure (fig. 3), and an electronics module (fig. 3 (28)) connected across the impedance means for at least one of transmitting and receiving signals (fig. 3).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lincklaen-Arriens et al. in view of Dickie et al.

Lincklaen-Arriens et al. discloses the system as claimed except for the signal circuit comprising a return path via earth and the selected anode, when effective, provides a conduction path from the metallic structure to earth.

Dickie et al. discloses an anode monitoring system wherein the signal circuit comprises a return path via earth and the selected anode, when effective, provides a conduction path from the metallic structure to earth (fig. 4).

Therefore, it would have been obvious to one skilled in the art at the time of the invention to incorporate the return path of Dickie et al. into the system of Lincklaen-Arriens for the purpose of completing the circuit through the anode whereby improving detection of anode depletion.

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lincklaen-Arriens et al. in view of Brown et al.

Lincklaen-Arriens et al. discloses the system as claimed except wherein the signal generator comprises a reference signal generator arranged to apply a reference signal to the signal circuit and an effective impedance varier for varying the effective impedance of the signal circuit in accordance with data to be transmitted wherein the reference signal generator is located at a position which is remote from the selected anode and the impedance varier is located adjacent the selected anode.

Brown et al. discloses an anode monitoring system comprising a reference signal generator (fig. 1 (26)) arranged to apply a reference signal to the signal circuit and an effective impedance varier (column 11, lines 7-8) for varying the effective impedance of the signal circuit in accordance with data to be transmitted (column 11, lines 9-11) wherein the reference signal generator is located at a position which is remote from the selected anode (fig. 1) and the impedance varier is located adjacent the selected anode (column 11, lines 7-8).

Therefore, it would have been obvious to one skilled in the art at the time of the invention to incorporate the generator and variable resistance of Brown et al. into the

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system of Lincklaen-Arriens for the purpose of controlling the voltage of the circuit whereby maintaining a proper current for cathodic protection (column 5, lines 7-17)

Allowable Subject Matter

11. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to show the state of the art with respect to anode monitoring.

USPN 4,826,577 to Lange: This patent shows an apparatus for monitoring a metallic structure wherein the structure is used as part of the circuit path.

USPN 4,400,782 to Ishikawa et al.: This patent shows an apparatus for monitoring a metal pipe wherein the pipe is used as part of the circuit path.

USPN 4,107,017 to Sabins: This patent shows a system for measuring the effectiveness of sacrificial anodes.

Conclusion


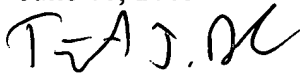
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Dole whose telephone number is 703-305-7396. The examiner can normally be reached on Mon. thru Fri. from 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le can be reached on 703-308-0750. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TJD
June 16, 2003



JAY PATIDAR
PRIMARY EXAMINER